Synapse
Energy Economics, Inc.

22 Pearl Street, Cambridge MA 02139
Tel 617-661-3248 Fax 617-661-0599
www.synapse-energy.com

Memorandum

To: Paul Roberti, Esq. and Michael Rubin, Esq.

From: David Schlissel

Date: October 2, 2002

Subject: ***Future PG&E's net revenues from Brayton Point Station***

This memorandum presents our estimates of the net revenues that PG&E is likely to earn during the years 2003 through 2013 from the Brayton Point Station.

This memorandum assumes that the conversions of the four units at the Brayton Point Station to closed cycle cooling systems are completed by the end of 2005. This is the same assumption made by the Abt Associates, Inc. financial analysis for the EPA. Based on review this is a reasonable assumption.

Therefore, we have examined two distinct periods. First, we look at the years 2003 through 2005 which represent the period during which the planning and actual conversions are undertaken and completed. Second, we look at the years 2006 through 2013 which represent the first eight years after Brayton Point resumes operations with the new closed cycle cooling systems.

The purpose of these analyses is to examine (1) whether PG&E will continue to earn significant net revenues from the sale of the output from Brayton Point during the conversion process and (2) whether the investment will make Brayton Point uneconomical to operate and, therefore, could be expected to lead to the Station's retirement.

Our overall conclusion is that PG&E will continue to earn significant net revenues both during and after the cooling system conversions. This is not a surprising conclusion given (1) that three of Brayton Point's units are coal-fired baseload plants, (2) the very high charges that PG&E will receive through 2009 for sales to serve standard offer 1 customers in Rhode Island and Massachusetts and (3) reasonable projections of future market prices in New England.

The results of our analyses are presented in Tables 1 and 2 below.

Table 1: PG&E's Net Revenues from Brayton Point Station – 2003 through 2005

	Total Revenues	Costs	Net Revenues
2003	$357,009,837	$260,739,055	$96,270,782
2004	$377,611,390	$267,716,052	$109,895,339
2005	$273,844,931	$205,893,877	$67,951,053
Total			$274,117,174

Table 2: PG&E's Net Revenues from Brayton Point Station – 2006 through 2013

	Total Revenues	Costs	Net Revenues
2006	$401,227,805	$309,430,133	$91,797,672
2007	$430,287,719	$317,641,118	$112,646,601
2008	$464,623,640	$326,114,024	$138,509,616
2009	$490,752,439	$334,691,783	$156,060,656
2010	$400,306,597	$341,200,897	$59,105,700
2011	$415,959,358	$349,964,918	$65,994,440
2012	$427,775,334	$358,985,530	$68,789,804
2013	$436,149,949	$368,094,077	$68,055,873
Total			$760,960,361

Conclusions

We have reached the following conclusions based on these analyses:

1. It is reasonable to expect that PG&E will be able to earn substantial net revenues and, consequently, considerable profits, from the sale of the output from Brayton Point Station, even during the years 2003 through 2005 when it will be undertaking and completing the conversions to closed cycle cooling systems.

2. It is reasonable to expect that PG&E will continue to earn substantial net revenues and, consequently, considerable profits, from the sale of the output from Brayton Point Station after the conversion to closed cycle cooling systems at Brayton Point.

3. Our estimates of the projected net revenues that PG&E could be expected to earn from Brayton Point Station would be significantly higher if we used PG&E's stated production costs of $15 per MWH for Units 1-3 and $35 per MWH for Unit4.

4. Given these projected net revenues, it is not reasonable to expect that PG&E will permanently shut down Brayton Point Station if required to convert all of the units to closed cycle cooling systems.

Conservatisms in Analyses

These analyses are conservative in a number of ways. First, we do not reflect any revenues that PG&E may earn from selling installed capability ("ICAP") entitlements to other market participants.

We also have assumed that the portion of the output from Brayton Point that will be sold into the wholesale market will be sold at the average monthly market clearing prices. It is possible that PG&E may instead choose to preferentially sell the output from the Brayton Point Station into the wholesale market during higher price hours. Consequently, our assumption may understate PG&E's revenues from the sale of this output.

Abt Associates assumes that the income gain following the conversion to closed cycle cooling systems due to the reduced frequency of generating unit output reductions during certain hot ambient water conditions would more than offset the income loss experienced as a result of the minor reduction in output due to the conversion and the use of cooling towers. However, we have assumed that these two effects are equal and, therefore, cancel each other out.

Abt Associates assumed a nominal $5 million expenditure starting in 2002 for capital additions expenditures unrelated to the cooling system conversions and escalated this figure at the overall rate of inflation. Although we don't necessarily disagree with this assumption, we have very conservatively assumed that PG&E would have to spend roughly four times as much, $20 million, each year on capital additions unrelated to the cooling water conversions.

We also have used a very conservative 18 percent annual fixed charge rate to represent a recovery of and on the $104.3 million capital expenditure that PG&E would have to make on the cooling system conversions. This figure is the same as that developed by SAIC and Abt Associates for EPA and assumes that PG&E would add a multi-mode operating capability to the closed cycle operation. This would eliminate the need for the units to be shut down during any plume hazard periods.

Methodology

We have made the following key assumptions in our analyses:

1. That in future years, each of the Brayton Point units would produce as much electricity as they generated, on average, each year during the period 1999 through 2001.

2. That during the years 2003 and 2004, the output from Brayton Point would be sold in equal amounts to standard offer 1 customers in Rhode Island and Massachusetts and into the wholesale market. We also assumed that between 2005 and 2009, the output from Brayton Point would be sold in equal amounts to standard offer 1 customers in Rhode Island and into the wholesale market. Finally, we assumed that after 2009 all of the output would be sold into the wholesale market. The contracts for PG&E to provide standard offer 1 customers in Massachusetts and Rhode Island expire, we have been informed, in March 2005 and 2009, respectively.

3. We assumed that future wholesale market prices would be in the middle of a reasonable range of forecasts recently adopted by the Vermont Public Service Board.[1]

4. We used base year 2001 fuel prices for coal and oil taken from the Energy Information Administration's Electric Power Monthly reports. We assumed that there would be no real growth thereafter in future coal and oil prices. This assumption is slightly more conservative than the AEO 2002 forecasts which ISO-NE has used in the recently issued draft Regional Transmission Expansion Plan.

5. We assumed that future non-fuel O&M expenditures were based on the $5.45 per MWH cost incurred by NEPCO during 1998 escalated at the overall rate of inflation. This is a conservative assumption because it does not allow for any

[1] Vermont Public Service Board Order in Docket No. 6545, entered June 13, 2002, at page 48.

improvements or efficiencies that PG&E may have achieved since it acquired the facility.

6. As we noted earlier, we made the conservative assumption that PG&E would have to spend $20 million each year on capital additions unrelated to the cooling system conversions.

7. We used the same assumptions as the Company and SAIC for the additional maintenance expense that would be incurred as a result of the conversion to closed cycle cooling systems and as to the generation that would be lost due to auxiliary power consumption.